CS 353 Spring 2021

Brief Description of Project Topics

The following is the list of project topics. Explanations are given for you to have a basic idea about what to design. You are EXPECTED to come up with additions regarding the context you have. Note that you are also EXPECTED to implement different entity and relation types that you learn in the class. If you are not sure what to add to the project, you are highly ENCOURAGED to discuss your project topic with your respective TA. All projects will be web-based systems. You are free to use any environment or programming language you would like to use for the project.

Online Course Platform (i.e. Udemy)

You are going to implement an online course platform. Users should be able to search for courses, buy the course they want, add courses to their wishlists, track their progress on courses, rate courses after finishing it and request a refund on bought courses with a valid reason. Course creators publish courses, make announcements about their courses. A course consists of several lectures each of which must be completed by a user if he/she wants to get the certificate of that course. Users can create notes for lectures. Each course has a Q&A section where users ask related questions and creators answer. Site admin offers discounts on courses whose creators allow, deals with complaints about courses by users, and approves/rejects return requests of users.

Social Cataloging Platform for Books (i. e. Goodreads)

In this project, you are going to implement a system that lets users track books they have read. Users should be able to search for books by author, genre, year etc., mark their progress on books, rate and comment on books, create book lists, add friends and like/comment on their posts and recommend books to their friends Authors publish their new books on the system, may read and reply reviews about their books. A book may be a part of a book series (e.g. LOTR). A book may have various editions with different publishers, page counts, formats and languages (translator if necessary) etc. Librarians create reading challenges which users can join, edit erroneous information about books upon request by users or authors.

Food Ordering and Delivery System (e.g. Uber Eats)

You are going to implement a food ordering and delivery system. There are users, restaurants, menus, food and beverages, rating and reviewing on a particular order and etc. A user can be either a restaurant owner, customer, delivery guy(driver/rider). Customers can make an order from a particular restaurant picking any number of food choices from their menu. System should check whether the credit is sufficient enough to make the order. The system randomly assigns the order to a driver (available driver who is not assigned any task at the time) to deliver the food to the customer. After the delivery, the customer should rate and review the whole delivery process including both the restaurant and the driver.

Hospital Database Management System (e.g. E-Nabız)

In this project, you are going to implement a database management system for a hospital. There are patients, doctors, laboratorians, departments, tests, symptoms, diseases and etc. A patient can book an appointment from a particular doctor. During the visit, the patient shares the symptoms with the doctor. The doctor can ask for necessary tests for further examination. These tests should be done by the corresponding laboratorians. Each test can have multiple results (e.g. general blood test has many components) which will be produced randomly. Each component should have a normality interval defined and stored in the database. After seeing the results of the tests, the doctor makes a particular diagnosis by choosing the appropriate disease/s from the database.

Zoo Database Management System

In this project, you are going to implement a database management system for a zoo. The users are visitors and employees. The users are visitors or employees. An employee should be either a keeper, veterinarian or a coordinator. Coordinators create events. An event can either be a group tour, educational program or a conservation organization. They invite veterinarians to educational programs. They assign keepers to the cages and respond to the complaint forms. Keepers can request treatment for an animal that belongs to a cage they look after and schedules training for animals. They regularize food for the cages. Veterinarians accept or reject invitations to educational programs and requested treatments for animals. Visitors attend group tours by paying the requested amount for the selected group tour and make donations to the conservation organizations. They create complaint forms and comment on group tours.

Hotel Database Management System

In this project, you are going to implement a database management system for a hotel. The users are guests and employees. An employee should be either a housekeeper, manager or a security staff. Guests book a reservation that belongs to a room. Each room belongs to a specific building which is in a specific location. Guests comment on their reservations and give a food order by selecting one of the listed restaurants and picking their food choices from that restaurant. They buy tickets for an activity or group tour. Housekeepers deliver assigned food orders to the guests. They apply to training programs. Managers assign food orders to housekeepers for delivery and assign security staff to buildings for security walks. They create events after selecting one of the listed locations. An event can be either guest activity, group tour or a training program. They accept or reject the applications of training programs or leave request forms. Security staff apply to training programs and can fill a leave request form for requested days by checking their annual leave.